



# TRANSMITTAL FORM

Application Serial Number	10/802,186
Filing Date	March 17, 2004
First Named Inventor	Cheng
Group Art Unit	2812
Examiner Name	Not yet assigned
Attorney Docket No.	ASC-025DV2C1
Patent No.	Not applicable
Issue Date	Not applicable

## ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Check Attached <input type="checkbox"/> Copy of Fee Transmittal Form	<input type="checkbox"/> Copy of Notice to File Missing Parts of Application	<input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences
<input type="checkbox"/> Amendment/Response <input type="checkbox"/> Preliminary <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets _____]	<input type="checkbox"/> Formal Drawing(s)	<input type="checkbox"/> Appeal Brief (in triplicate)
<input type="checkbox"/> Petition for Extension of Time	<input type="checkbox"/> Request For Continued Examination (RCE) Transmittal	<input type="checkbox"/> Status Inquiry
<input checked="" type="checkbox"/> Supplemental Information Disclosure Statement <input checked="" type="checkbox"/> Form PTO-1449 <input checked="" type="checkbox"/> Copy of IDS Citation A236-A252, B45-B47 and C98-C100	<input type="checkbox"/> Power of Attorney (Revocation of Prior Powers)	<input checked="" type="checkbox"/> Return Receipt Postcard
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8
<input type="checkbox"/> Sequence Listing submission <input type="checkbox"/> Paper Copy/CD <input type="checkbox"/> Computer Readable Copy <input type="checkbox"/> Statement verifying identity of above	<input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application	<input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8
	<input type="checkbox"/> Small Entity Statement	<input type="checkbox"/> Additional Enclosure(s) (please identify below)
	<input type="checkbox"/> CD(s) for large table or computer program	
	<input type="checkbox"/> Amendment After Allowance	
	<input type="checkbox"/> Request for Certificate of Correction <input type="checkbox"/> Certificate of Correction (in duplicate)	

## CORRESPONDENCE ADDRESS

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## SIGNATURE BLOCK

Respectfully submitted,

Date: Nov. 9, 2004  
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**PATENT**  
Attorney Docket No. ASC-025DV2C1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS: Cheng, *et al.*  
SERIAL NO.: 10/802,186 GROUP NO.: 2812  
FILING DATE: March 17, 2004 EXAMINER: Not yet assigned  
TITLE: PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING  
GRADED EPITAXIAL GROWTH

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Mail Stop Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 9<sup>th</sup> day of November, 2004.

  
Wendy Martin

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith are: Transmittal Form (1 page); Supplemental Information Disclosure Statement (4 pages); Form PTO-1449 (2 pages); References labeled A236-A252, B45-B47 and C98-C100; and a return receipt postcard.



PATENT  
Attorney Docket No. ASC-025DV2C1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Cheng, *et al.*  
SERIAL NO.: 10/802,186 GROUP NO.: 2812  
FILING DATE: March 17, 2004 EXAMINER: Not yet assigned  
TITLE: PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING  
GRADED EPITAXIAL GROWTH

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of the patents and publications are enclosed.

REMARKS

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed (CHECK ONE):

- ☒ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or

- ☐ (3) after the mailing date of a **final action** or **notice of allowance** but before the payment of the **issue fee**, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

In addition, Applicants wish to inform the Examiner about the following co-pending patent applications and Office actions issued therein:

- 1.) U.S. Patent No. 6,107,653, U.S.S.N. 09/103,672 (Docket No. ASC-023), filed June 23, 1998 by Fitzgerald;
- 2.) U.S. Patent No. 6,232,138, U.S.S.N. 09/198,960 (Docket No. ASC-024DV), filed November 24, 1998 by Fitzgerald *et al.*;
- 3.) U.S. Patent No. 6,291,321, U.S.S.N. 09/265,016 (Docket No. ASC-023DV), filed March 9, 1999 by Fitzgerald;
- 4.) U.S. Patent No. 6,521,041, U.S.S.N. 09/289,514 (Docket No. ASC-022), filed April 9, 1999 by Wu *et al.*;
- 5.) U.S. Patent No. 6,555,839, U.S.S.N. 09/859,138 (Docket No. ASC-035), filed May 16, 2001 by Fitzgerald;
- 6.) U.S. Patent No. 6,573,126, U.S.S.N. 09/928,126 (Docket No. ASC-025), filed August 10, 2001 by Cheng *et al.*;
- 7.) U.S. Patent No. 6,583,015, U.S.S.N. 09/923,207 (Docket No. ASC-042), filed August 6, 2001 by Fitzgerald *et al.*;
- 8.) U.S. Patent No. 6,593,191, U.S.S.N. 09/859,137 (Docket No. ASC-036), filed January 17, 2001 by Fitzgerald;
- 9.) U.S. Patent No. 6,602,613, U.S.S.N. 09/764,182 (Docket No. ASC-031), filed May 16, 2001 by Fitzgerald;
- 10.) U.S. Patent No. 6,646,322, U.S.S.N. 09/906,438 (Docket No. ASC-051), filed July 16, 2001 by Fitzgerald;
- 11.) U.S. Patent No. 6,649,480, U.S.S.N. 09/884,172 (Docket No. ASC-044), filed June 19, 2001 by Fitzgerald *et al.*;
- 12.) U.S. Patent No. 6,677,192, U.S.S.N. 09/906,545 (Docket No. ASC-048), filed July 16, 2001 by Fitzgerald;
- 13.) U.S. Patent No. 6,703,144, U.S.S.N. 10/391,086 (Docket No. ASC-031C1), filed March 18, 2003 by Fitzgerald;
- 14.) U.S. Patent No. 6,703,688, U.S.S.N. 09/906,200 (Docket No. ASC-049), filed July 16, 2001 by Fitzgerald;
- 15.) U.S. Patent No. 6,713,326, U.S.S.N. 10/379,555 (Docket No. ASC-025DV2), filed March 4, 2003 by Cheng *et al.*;

- 16.) U.S. Patent No. 6,723,661, U.S.S.N. 09/906,201 (Docket No. ASC-050), filed July 16, 2001 by Fitzgerald;
- 17.) U.S. Patent No. 6,724,008, U.S.S.N. 09/906,551 (Docket No. ASC-047), filed July 16, 2001 by Fitzgerald;
- 18.) U.S. Patent No. 6,730,551, U.S.S.N. 10/211,126 (Docket No. ASC-012), filed August 2, 2002 by Lee *et al.*;
- 19.) U.S. Patent No. 6,737,670, U.S.S.N. 10/384,160 (Docket No. ASC-025DV), filed March 7, 2003 by Cheng *et al.*;
- 20.) U.S. Patent No. 6,750,130, U.S.S.N. 09/764,177 (Docket No. ASC-032), filed January 7, 2001 by Fitzgerald;
- 21.) U.S. Publication No. 2002/0084000, U.S.S.N. 10/022,689 (Docket No. ASC-023DVC2), filed December 17, 2001 by Fitzgerald;
- 22.) U.S. Publication No. 2002/0100942, U.S.S.N. 09/884,517 (Docket No. ASC-043), filed June 19, 2001 by Fitzgerald *et al.*;
- 23.) U.S. Publication No. 2002/0123167, U.S.S.N. 09/906,534 (Docket No. ASC-054), filed July 16, 2001 by Fitzgerald;
- 24.) U.S. Publication No. 2002/0123183 U.S.S.N. 09/906,533 (Docket No. ASC-052), filed July 16, 2001 by Fitzgerald;
- 25.) U.S. Publication No. 2002/0125471, U.S.S.N. 10/005,274 (Docket No. ASC-043CP), filed December 4, 2001 by Fitzgerald *et al.*;
- 26.) U.S. Publication No. 2002/0168864, U.S.S.N. 10/116,559 (Docket No. ASC-026), filed April 4, 2002 by Cheng *et al.*;
- 27.) U.S. Publication No. 2003/0013323, U.S.S.N. 10/172,542 (Docket No. ASC-057), filed June 14, 2002 by Hammond *et al.*;
- 28.) U.S. Publication No. 2003/0034529, U.S.S.N. 10/266,399 (Docket No. ASC-043C1), filed October 8, 2002 by Fitzgerald *et al.*;
- 29.) U.S. Publication No. 2003/0057439, U.S.S.N. 10/216,085 (Docket No. ASC-015), filed August 9, 2002 by Fitzgerald;
- 30.) U.S. Publication No. 2003/0102498-A1, U.S.S.N. 10/253,361 (Docket No. ASC-018), filed September 24, 2002 by Braithwaite *et al.*;
- 31.) U.S. Publication No. 2003/0215990, U.S.S.N. 10/389,003 (Docket No. ASC-019), filed March 14, 2003 by Fitzgerald *et al.*;
- 32.) U.S. Publication No. 2003/0227057, U.S.S.N. 10/264,935 (Docket No. ASC-008), filed October 4, 2002 by Lochtefeld *et al.*;
- 33.) U.S. Publication No. 2004/0005740, U.S.S.N. 10/456,103 (Docket No. ASC-008C) filed on June 6, 2003 by Lochtefeld *et al.*;
- 34.) U.S. Publication No. 2004/0031979-A1, U.S.S.N. 10/456,708 (Docket No. ASC-008B), filed June 6, 2003 by Lochtefeld *et al.*;
- 35.) U.S. Publication No. 2004/0075149, U.S.S.N. 10/625,018 (Docket No. ASC-043C2), filed July 23, 2003 by Fitzgerald *et al.*;


- 36.) U.S. Serial No. 09/611,024 (Docket No. ASC-023), filed June 7, 2000 by Fitzgerald;
- 37.) U.S. Serial No. 10/611,739 (Docket No. ASC-044C1), filed July 1, 2000 by Fitzgerald *et al.*;
- 38.) U.S. Serial No. 10/774,890 (Docket No. ASC-049C1), filed February 9, 2004 by Fitzgerald;
- 39.) U.S. Serial No. 10/802,185 (Docket No. ASC-025DVC1) filed on March 17, 2004 by Cheng *et al.*;
- 40.) U.S. Serial No. 10/826,156 (Docket No. ASC-023C2) filed on April 16, 2004 by Fitzgerald; and
- 41.) U.S. Serial No. 10/854,556 (Docket No. ASC-054C1), filed May 26, 2004 by Fitzgerald.

It is respectfully requested that the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

Respectfully submitted,

Date: Nov. 9, 2004  
Reg. No. 44,381

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\_\_\_\_\_  
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FORM PTO - 1449

SUPPLEMENTAL INFORMATION  
DISCLOSURE STATEMENT

ATTY DOCKET NO.: ASC-025DV2C1

APPLICANT(S): Cheng, *et al.*

SERIAL NO.: 10/802,186

FILING DATE: March 17, 2004

GROUP: 2812

## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A236	4,969,031	11/00/1990	Kobayashi <i>et al.</i>			
	A237	5,439,843	08/08/1995	Sakaguchi <i>et al.</i>			
	A238	5,548,128	08/20/1996	Soref <i>et al.</i>			
	A239	5,607,876	03/04/1997	Biegelsen <i>et al.</i>			
	A240	6,489,639	12/03/2002	Hoke <i>et al.</i>			
	A241	6,591,321	07/08/2003	Arimilli <i>et al.</i>			11/09/1999
	A242	6,597,016	07/22/2003	Yuki <i>et al.</i>			01/13/2000
	A243	6,646,322	11/11/2003	Fitzgerald			07/16/2001
	A244	6,674,150	01/06/2004	Takagi <i>et al.</i>			04/23/2002
	A245	6,677,192	01/13/2004	Fitzgerald			07/16/2001
	A246	6,703,144	03/09/2004	Fitzgerald			03/18/2003
	A247	6,703,688	03/09/2004	Fitzgerald			7/16/2001
	A248	6,737,670	05/18/2004	Cheng <i>et al.</i>			03/07/2003
	A249	6,750,130	01/07/2001	Fitzgerald			01/07/2001
	A250	2002/0084000	07/04/2002	Fitzgerald			12/17/2001
	A251	2003/0215990	11/20/2003	Fitzgerald <i>et al.</i>			03/14/2003
	A252	2004/0075149	04/22/2004	Fitzgerald <i>et al.</i>			07/23/2003

## FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B45	61-141116	06/28/1986	JP				N	Y (abstract only)
	B46	2-210816	08/22/1990	JP				N	Y (abstract only)
	B47	3-036717	02/18/1991	JP				N	Y

EXAMINER

DATE CONSIDERED



FORM PTO - 1449

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ATTY DOCKET NO.: ASC-025DV2C1

APPLICANT(S): Cheng, *et al.*

SERIAL NO.: 10/802,186

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EXAM. INIT.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

EXAM. INIT.	DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)

EXAM. INIT. OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)

C98	Grillot <i>et al.</i> , "Acceptor diffusion and segregation in $(\text{Al}_x\text{Ga}_{1-x})_{0.5}\text{In}_{0.5}\text{P}$ heterostructures," <u>Journal of Applied Physics</u> , Vol. 91, No. 8 (2002), pp. 4891-4899.
C99	Halsall <i>et al.</i> , "Electron diffraction and Raman studies of the effect of substrate misorientation on ordering in the $\text{AlGaInP}$ system," <u>Journal of Applied Physics</u> , Vol. 85, No. 1 (1999), pp. 199-202.
C100	Hsu <i>et al.</i> , "Surface morphology of related $\text{Ge}_x\text{Si}_{1-x}$ films," <u>Appl. Phys. Lett.</u> , Vol. 61, No. 11 (1992), pp. 1293-1295

EXAMINER

DATE CONSIDERED

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